

edly for a century. The use of tractors for logging during the past three decades had a particularly devastating effect for the fish of these coastal streams. Department of Fish and Game surveys found silver salmon in virtually every coastal stream in Mendocino County in the mid 1950's. A recent survey of 70 of these streams found silver salmon in just 20—and only at remnant levels.

The salmon and steelhead trout native to this region of summer fogs and winter rain are accustomed to cool water temperatures. The removal of the redwood and fir forest cover, as well as the destruction of willows, alders and other stream side vegetation, leaves stream flows exposed to warming and evaporation. Corridors along these coastal streams and their tributaries must be allowed to revegetate as part of the region's salmon and steelhead restoration plan.

The communities along California's north central coast were the pioneers of the states low-cost, citizen-based salmon and steelhead restoration efforts. From instream 'hatch boxes' and rearing ponds beside Ten Mile River north of Fort Bragg, these projects have grown in number and sophistication. One angling club operates a tiny hatchery, in cooperation with the local water district, on Lagunitas Creek in Mann County.

These coastal communities have been involved with both salmon and steelhead restoration and commercial timber management issues. Because of this, the citizens are particularly sensitive to the effect of defoliants on young fish. In this case, defoliants are chemicals sprayed from the air to kill leafy vegetation to increase tree growth. Debate over jurisdiction for the control of spraying, whether by the state or counties, raged between the coastal counties and the Capitol

for nearly a decade. Five years ago, the Legislature stripped local governments of any ability to regulate forestry chemicals.

While the debate has diminished, the risk to juvenile salmon and steelhead remains. The U.S. Forest Service spraying programs, dormant in recent years, will resume following completion of expanded environmental documentation. Private timberland managers have, meanwhile, adopted new spray products. The effects of these products on juvenile salmonids must be explored before their use is expanded significantly.

The Solutions

ACTION: The Department of Fish and Game should anticipate an expansion in aerial application of forest pesticides and arrange for increased laboratory and field testing of their effects on juvenile salmonids. Failure to do so could jeopardize local salmon and steelhead restoration efforts.

Russian River



The Setting

The Russian River rises from the slopes of the Coast Range mountains two hours north of San Francisco and flows to the sea at Jenner on the Sonoma coast. The river has been

augmented by diversions from the upper Eel River for a hydroelectric project since 1909. The Russian River once provided nearly 700 miles of salmon and steelhead habitat and as recently as 1970, supported a steelhead spawning run of 65,000 fish.

Historically, the Russian River was one of the finest steelhead streams *in the world*. The river's salmon resources have been reduced

"Historically, the Russian River was one of the finest steelhead streams in the world..."



At Healdsburg, young salmon and steelhead are forced to plunge through the narrow opening in Sonoma County's dam, only to strike the concrete sill below

to remnants; steelhead numbers have decreased severely from historic levels.

The Problems

As with other areas of the state, the Russian River's salmon and steelhead resources have suffered from blockage to spawning migrations, inadequate water flows and reduced water quality. This is precisely what resulted from the development of Coyote Valley Dam during the 1950's. A mitigation hatchery built at the Warm Springs Dam is attempting to reestablish the region's salmon and steelhead production. Despite Corps of Engineers' promises to fund mitigation for the loss of 4,000 steelhead spawners to Coyote Valley Dam, it has balked at the Department

of Fish and Game's mitigation plans. No money has yet been provided.

Water diversions from the Russian River and its tributaries are increasing with the region's increasing urban and suburban development. Many of these diversions are being made without permission from the State Water Resources Control Board. The Board should declare a moratorium on new diversions from the Russian River basin until the Department of Fish and Game can complete an instream flow requirement study of the sort sought in AB 723. The Board should use the results of the study to act against illegal diversions and to guide the allocation of any water available for use.

A recreation dam constructed by Sonoma

County at Healdsburg in 1953 has hampered fish passage there. While downstream migrants have been harmed from the start, erosion at the base of the dam is now hindering upstream spawning migrations—even when the dam's flash boards are removed. Fish conservationists have sued the county to force repair of the dam; Sonoma County has resisted. The Department of Fish and Game (DFG) is concerned that while the issue is being tried in the courts, fish restoration efforts in the area will be frustrated. Consequently, the DFG has requested funds in 1988 to repair the dam and will seek reimbursement from the county after the repairs are made.

Gravel mining threatens fish

The Russian River's proximity to large urban populations makes the river an excellent candidate for restoration. Salmon and steelhead trout resources could contribute significantly to the area's recreation economy. Unfortunately, this closeness to urban areas also makes the river a prime target for gravel extraction. The spawning gravels within the basin must be given the same protections as other prime spawning areas of the state. The Department of Fish and Game should assist Advisory Committee representatives in identifying key spawning reaches so they can be added to Fish and Game Code Section 1505, placing them under the control of the Director of the Department of Fish and Game.

Legislation has been introduced in Congress — House of Representatives Bill 2513, by Mr. Bosco — which would authorize a two-year, \$3 million study of the fishery resources of the Russian River and their habitat needs. The study would be conducted by the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and the California Department of Fish and Game. Given the Corps'

direct involvement in the decline of the area's salmonid fish, it is highly appropriate that it be a full partner in shaping a restoration plan.

The Solutions

ACTION: The U.S. Army Corps of Engineers should be directed to make good on its commitment to fund production of juvenile steelhead trout (the amount specified by the DFG is 40,000 pounds a year) to mitigate the loss of upstream spawning habitat to the construction of Coyote Valley Dam.

ACTION: The Department of Fish and Game should urge the State Water Resources Control Board to place a moratorium on further water diversions throughout the Russian River basin until such time as the instream flow requirements of salmon and steelhead have been determined and assured. The Board should act to curb illegal water diversions in the basin immediately.

ACTION: The Legislature should fund repairs to Sonoma County's Healdsburg Dam on an urgency basis; this support should be offered with the understanding that the Department of Fish and Game should recover the county's fair share of the expenses.

ACTION: The Department of Fish and Game should identify the salmon and steelhead spawning reaches of each stream in the Russian River basin; the Legislature should add these areas to Fish and Game Code Section 1505.

ACTION: The Legislature and the Department of Fish and Game should support enactment of H.R. 2513, the proposed state-federal joint study of the fishery resources of the Russian River.